DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

Denial of Petition

This notice sets forth the reasons for the denial of a petition submitted to the National Highway Traffic Safety Administration (NHTSA) under Section 124 of the National Traffic and Motor Vehicle Safety Act of 1966, as amended. 15 U.S.C. 1381, 1410a.

On September 11, 1992, the Institute for Injury Reduction (IIR) petitioned NHTSA to conduct a defect investigation, leading to a recall, of safety belts which can become unlatched due to inertial unlatching. IIR alleged that crash forces applied to the buckle can actuate the release button, allowing the belt to become unlatched. Additionally, the IIR petition requested NHTSA to initiate rulemaking to preclude such designs in the future. IIR stated that the alleged defect appears to involve belts with the release button on the face of the buckle. The release buttons on such buckles are to the side of the occupant, hence they are characterized as "side release" buckles. Approximately 90% of the cars sold in the United States since 1970 have had side release buckles. The other common design has the release button on the end of the buckle, and is therefore characterized as an "end release" buckle.

To address the allegations in this petition, NHTSA conducted an extensive effort to obtain, analyze, and review all available information and data on safety belt inertial unlatching. A detailed review was conducted of every crash test conducted by the agency over the past 24 years to determine if inertial unlatching occurred in any of the thousands of tests. Laboratory tests were performed to define the characteristics that cause inertial unlatching and to determine if these exist in the real-world crash environment. Information was requested from 8 motor vehicle manufacturers and 5 safety belt manufacturers, as well as holders of patents on safety belt buckles, to search for information concerning the alleged defect. Real-world accident data were analyzed to determine if there is any difference in the occupant protection provided by safety belts with side release buckles compared to belts with end release buckles. All information provided to NHTSA's Auto Safety Hotline was reviewed, both before and after receipt of the petition, to determine if any patterns exist among consumer complaints to suggest a possible defect with side release buckles. Information was obtained from other countries concerning the alleged defect.

The agency began its review by reexamining its 1977 defect investigation into the possibility that the seat belt mechanism in a 1975 Chevrolet Monza could inadvertently release if a sharp blow was applied to the back of the buckle (EA77-040). As part of its investigation into this issue, NHTSA conducted laboratory testing on the Monza belt buckle and buckles of similar design at its Vehicle Research and Test Center (VRTC). The results of this testing indicated that a sharp blow to the back of a safety belt buckle could open the buckle. However, aside from the single owner complaint about a Monza, there were no other complaints or reports of real-world incidents of inertial unlatching. Moreover, it was clear

that the laboratory tests were not indicative of real-world crash conditions. Therefore, the investigation was closed.

The agency published results of the VRTC tests in a 1978 report titled "Survey of Seat Belt Latching Mechanisms Used on 1971-1978 Passenger Cars." That report recommended that tests be performed simulating pelvic impact force on the back of the buckle in rollover and corner impact crashes. This type of force has been present in many of the agency's approximately 2,300 crash tests involving approximately 4,000 dummies restrained by safety belts, including frontal, oblique, rear, rollover, and side crashes. In evaluating the IIR petition, the agency reviewed the results of each of these crash tests. It found 11 instances of buckle release. Of these, one released when it broke at the attachment to the safety belt webbing. The other 10 instances (7 end release buckles, 3 side release buckles) involved buckles unlatching. In no case was inertial unlatching the cause.

Manufacturer data also indicated that inertial unlatching is not a safety problem. In the tens of thousands of crash tests conducted by motor vehicle and belt manufacturers, only General Motors Corporation (GM) reported what it believes may be possible, but unverifiable, cases of inertial unlatching. Of the 30,000 tests GM has performed, it identified only two such possible instances. No other such reports were provided by vehicle or belt manufacturers. Responses from safety belt buckle patent holders indicated that patents were sought to improve the general performance and ease of operation of buckles--not because of a safety problem associated with inertial unlatching.

Laboratory testing performed in response to this petition defined the engineering characteristics that can cause inertial unlatching. Most important, this testing demonstrated that these characteristics are not present in real-world crashes.

Analysis of real-world crash data demonstrated that there is no pattern of evidence to support the allegation of inadvertent unlatching of side release buckles. This analysis, based on hundreds of thousands of fatal and less serious crashes, did not indicate a safety performance problem with side release buckles.

Similarly, a review of consumer calls to the agency's Auto Safety Hotline did not suggest the presence of a safety problem. The complaint rate (the number of reports divided by the number of vehicles on the road) is essentially the same for vehicles with side and with end release buckles. Further, for those complaints reporting belt unlatching, assuming every complaint accurately reflected a case of inertial unlatching, the complaint rate is extremely low compared to other safety problems reported to the agency.

The agency asked representatives of the Canadian Ministry of Transport, the Australian Federal Office of Road Safety, and the United Kingdom Department of Transport for any information they may have of investigations and reports concerning inertial unlatching of safety belt buckles. The response from Canada indicated that many investigations of alleged release of safety belt buckles had been conducted, but "in NO case was it concluded that the buckle released due to inertial forces." The response from Australia noted that their review of safety defect investigations found "no record of any alleged problems in Australia with

this type of buckle." A 1973 study by the Department of Motor Transport in New South Wales, Australia, titled "Dynamic Tests for Seat Belts" found that laboratory tests could result in inertial unlatching, but the chances of such laboratory conditions existing in actual crashes were unknown. The response from the United Kingdom stated that its in-depth accident investigations have shown no instances of inertial release of safety belt buckles and that its counterpart to our defect investigations and compliance testing efforts have found no defects of this nature in its testing and investigations.

In summary, the agency's comprehensive review of all available information--crash tests, manufacturer submissions to the agency, laboratory tests, analysis of real-world accident data, and assessment of consumer complaints filed with the agency--did not provide any evidence that there is a safety problem associated with inertial unlatching of safety belts.

In consideration of the available information, it was concluded that there was not a reasonable possibility that an order concerning the notification and remedy of a safety-related defect in relation to the petitioner's allegations would be issued at the conclusion of an investigation. Since no evidence of a safety-related defect trend was discovered, further commitment of resources to determine whether such a trend may exist does not appear to be warranted. Accordingly, the petition to conduct a defect investigation is denied.

With respect to the petition concerning rulemaking, for the reasons cited above, it was also concluded that there is not a reasonable possibility that any amendments to NHTSA's safety standards would be issued at the conclusion of a regulatory proceeding. Therefore, the

petition is denied in its entirety.

Authority: Sec. 124, Pub. L. 93-492; 88 Stat. 1470 (15 U.S.C. 1410a); delegations of authority at 49 CFR 1.50 and 501.8.

Issued on: NOV 18 1992

William A. Boehly
Associate Administrator
for Enforcement

Barry Felrice
Associate Administrator
for Rulemaking

Billing Code: 4910-59

6706